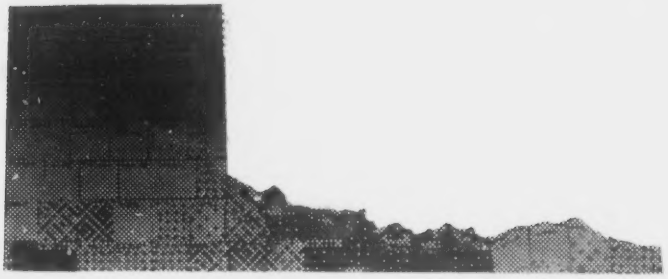
TEXAS OCCUPATIONAL EMPLOYMENT STATISTICS



INDUSTRY STAFFING PATTERNS FOR SELECTED STATE AND LOCAL GOVERNMENT INDUSTRIES

TEXAS EMPLOYMENT COMMISSION
In cooperation with the U.S. Department of Labor
Bureau of Labor Statistics and the Employment
and Training Administration

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TEXAS OCCUPATIONAL EMPLOYMENT STATISTICS

STAFFING PATTERNS
FOR SELECTED STATE AND LOCAL
GOVERNMENT INDUSTRIES

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PREFACE

This publication summarizes the results of an occupational employment survey of selected Trade and Regulated Industries in Texas.

This report is the product of a Federal-State Cooperative Program. The Bureau of Labor Statistics developed the procedures and provided technical assistance. The Employment and Training Administration funded the project and was responsible for the administrative aspects of the program. The Texas Employment Commission collected and analyzed the data, provided the necessary computer services, and published these findings.

Special thanks are extended to the many cooperating employers who provided the survey data which made this publication possible.

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INTRODUCTION

The Occupational Employment Statistics (OES) Program is a part of a Federal-State Cooperative Program involving State Employment Security Agencies in conjunction with the Employment and Training Administration and the Bureau of Labor Statistics.

The OES Program is designed to: (1) provide accurate profiles of occupational resources by industry and trends in the number of workers by occupation, (2) aid in projections of future manpower requirements by industry and occupation, and (3) identify emerging and disappearing occupations. This information will help in the development of educational training programs and will also provide valuable information for employment counselors and manpower planners. These data will be used to refine and modify the worker-demand projections generated through the Industry-Occupation Matrix System.

State and Local Government data were collected during the survey week of May 12, 1979.

This publication and others of its type to follow will be continually updated, as well as improved, to provide a better basis for decision-making at all levels of manpower and vocational planning.

METHODOLOGY

The Sample

In State Government, a sample per se was not used; but rather a total enumeration of employees which was furnished by the Position Classification Division of the State Auditors Office. For this survey, the benchmark (universe) employment was 59,539.

In Local Government, the sampling differs from State Government. A sampling frame, furnished by the Bureau of the Census, was used as a sample design. For this survey, the benchmark (universe) employment was 147,965.

Sampling Error

By definition, State Government does not have sampling errors because a total enumeration was used.

In Local Government, the sampling error is an arithmetic measure of the precision of the estimate. It is the error that results from the difference between data obtained if the same survey methods were applied to collecting identical information from the entire population (universe).

The relative errors express the absolute sampling error of an estimate as a percentage of that estimate. Because this measure of precision is on the same base for different estimates, comparison is possible. The relative errors are such that the chances are two out of three (68%) that the results of such a complete survey of all firms would not differ by plus or minus one relative standard error from the OES occupational estimates, and an interval of two relative standard errors will yield a 95% confidence level.

For example, the OES estimate of employment in Local Government for the number of Civil Engineers employed was 475 with a relative standard error of 5.60%. The chances are two out of three that the true number of workers employed in that occupation at the time of the survey was between 448 and 502 ($475 \pm .0560 \times 475$), and we may be 95% certain that the true number fell between 422 and 528 ($475 \pm 2 \times .0560 \times 475$). The relative standard error allows the user to judge, with a given degree of confidence, the quality of any particular occupational estimate. It is a measure of the relative dispersion within the data collected, and indicates the occupational coefficient of variation of the population from which the sample was drawn.

Nonsampling Error

By definition, State Government does not have nonsampling error because a total enumeration was used.

In Local Government, a survey of this design and complexity is going to have a small degree of nonsampling error. Examples of these errors are faulty questionnaire design, inaccuracy of data furnished, ineffective processing, and nonresponse. The possibility of errors in the design of and the data furnished by the questionnaires, as well as errors in processing, was recognized from the start of the survey. Every effort was exercised to avoid and control them.

The nonresponse area was handled to a large degree by the built-in variables of the sampling and estimating process. This process takes into consideration that the occupational distribution of the nonreporting sample unit in a given employment size class is the same as among the reporting establishments of that size class.

Estimating Procedure

In State Government, employment was classified in total on a master schedule. The employment from this schedule was then keypunched into the correct occupational groups as presented.

In Local Government, a ratio method (established statistical procedure) was used throughout the report. Any given size class of any given Local Government segment represents an estimating cell. All establishments in a given cell are assigned a sample weight which is the inverse of the sampling ratio. There is a direct relationship between employment and the number of units within a size class to determine the ratio, or the probability of sample selection.

The employment for any specific occupation in each establishment is inflated by its sample weight and summed for all sample establishments in the cell. A ratio is then derived of the weighted employment for each occupation to the weighted reported total employment. This ratio is then multiplied by the benchmark employment for that estimating cell as of May 12, 1979, the survey month, thus yielding the occupational make-up of the estimating cell for that date.

Like occupational employments are summed across all employment size classes within each three-digit SIC to arrive at a total industry employment for each occupation. Two-digit estimates of occupational employment were derived by summing estimates across three-digit SIC industries.

Collection Procedures

In State Government, data was furnished by the Position Classification Division of the State Auditors Office.

In Local Government, all of the data was collected by mail. Survey operations included an initial mail out and two follow-ups to nonrespondents. In some cases, an extra follow-up was made where nonresponse was a critical factor. The telephone was used to clarify information, handle critical areas, and prompt respondents to furnish survey data.

CONSIDERATIONS OF THE USES OF THE ESTIMATES

Relative Error

Relative error is a measure of precision and expresses the absolute sampling error of an estimate as a percentage of that estimate. From an accuracy standpoint, the higher the relative error - the less accurate the estimate. If relative errors exceeded fifty percent, the employment from these occupations was merged with the employment of the "all other" residual category that was relevant to them.

Throughout the tables, it should be noted that the relative error is computed only for specific occupations and not for residual categories nor for occupational groupings. These are noted by "na" (not applicable).

Rounding Errors and Occupations With Employment Less Than Thirty

All percentage estimates are carried out to two decimal places with the exception of the percent of establishments reporting the occupation. These percentages were rounded to the nearest whole number.

In this survey many more occupations were surveyed than are actually shown in the tables. Occupations which had employment of less than thirty were suppressed, and their employment was added to the residual category for their major occupational group. All employment estimates were rounded to the nearest five.

STATE GOVERNMENT

This report includes all State Government employees by occupation except those employed in hospitals and educational institutions such as elementary and secondary schools, vocational high schools, universities, colleges, junior colleges, and technical institutes. (Hospitals and Education will be covered in later reports). Also included in this report are libraries and other types of information centers; mental health centers, convalescent homes, and other health service agencies; and vocational schools (except vocational high schools) and other types of training facilities which are part of any other State Government function such as police training academies or administrative training centers.

Multiple job holders (performing work in two or more listed occupations) were classified only once in the occupation requiring the highest level of skill. Working supervisors (those spending 20% or more of their time at work similiar to that performed by workers under their supervision) were classified in the occupations that were most closely related to their work duties. Employees whose wages were reimbursed through CETA Titles II and VI (Public Service Employment Act) were classified in the occupation in which they were currently employed.

STATE GOVERNMENT

Occupation	Estimated Employment	Percent of Total Employment 1/
TOTAL EMPLOYMENT.....	59,515	100.00
MANAGERS, OFFICERS, ELECTED OFFICIALS, AND PUBLIC ADMINISTRATION INSPECTORS, TOTAL.....	7,320	12.30
Chief Executives, General Administrators and Legislators.....	185	.31
Public Administration Inspectors, Except Construction.....	1,435	2.41
All Other Managers and Officers.....	5,700	9.57
PROFESSIONAL AND TECHNICAL OCCUPATIONS, TOTAL.....	25,920	43.55
Accountants and Auditors.....	2,215	3.72
Agricultural Scientists.....	40	.06
Architects.....	80	.13
Biological Scientists.....	280	.46
Budget Analysts.....	50	.08
Caseworkers.....	6,035	10.13
Chemical Engineers.....	50	.08
Chemists.....	130	.21
Civil Engineering Technicians.....	75	.12
Civil Engineers.....	330	.55
Claims Takers, Unemployment Benefits.	135	.22
Community Organization Workers.....	70	.11
Computer Programmers.....	600	1.01
Dietitians and/or Nutritionists.....	60	.09
Drafters.....	170	.28
Economists.....	160	.26
Employment Interviewers.....	1,380	2.31
Foresters and Conservation Scientists	330	.55
Geologists and Geophysicists.....	180	.30
Group Recreation Workers.....	545	.91
Judges.....	435	.73
Landscape Architects.....	40	.06
Lawyers.....	455	.76

Occupation	Estimated Employment	Percent of Total Employment 1/
PROFESSIONAL AND TECHNICAL OCCUPATIONS (Continued)		
Librarians, Professional	40	.06
Licensed Practical Nurses	755	1.26
Mathematical Scientists	150	.25
Mechanical Engineers	60	.10
Medical and Dental Technicians and Technologists	150	.25
Nurses, Professional	910	1.53
Personnel and Labor Relations Specialists	740	1.24
Photographers	185	.30
Physical Therapists	30	.05
Physicians and/or Surgeons	160	.26
Physician's Assistants	85	.14
Psychologists	70	.12
Purchasing Agents and/or Buyers	220	.36
Science Technicians	55	.08
Surveyors	30	.05
Systems Analysts, Electronic Data Processing	335	.56
Tax Examiners, Collectors, and/or Revenue Agents	460	.77
Traffic Engineers	35	.05
Urban and Regional Planners	40	.06
Veterinarians	60	.10
Vocational and Educational Counselors	610	1.02
Welfare Investigators	215	.36
Writers and/or Editors	120	.20
All Other Engineering Technicians	2,825	4.74
All Other Engineers	85	.14
All Other Physical Scientists	65	.11
All Other Social Scientists	2/	
All Other Therapists	305	.51
All Other Professional Workers	740	1.24
All Other Technical Workers	2/	
SERVICE OCCUPATIONS, TOTAL	7,360	12.37
Police and Detective Supervisors	310	.52
Supervisors, Nonworking-Service	115	.19
Bailiffs	75	.12
Child-Care Workers	145	.24
Correction Officers and/or Jailers	2,195	3.69
Detectives, Police	55	.09
Fish and Game Wardens	375	.63